MAIL STOP AF

09/973,778
Art Unit: 1731
Response to final action of 06/09/2004

Amendments to the specification

Please amend paragraph [0003] as follows:

[0003] Our co-pending US patent application no. 09/867,772 entitled "Method of Depositing Optical Quality Films" describes an improved Plasma Enhanced Chemical Vapour Deposition technique of these silica-based elements which allows the achievement of the required 'delta-n' while eliminating the undesirable residual Si:N-H oscillators (observed as a FTIR (Fourier Transform Infrared) peak centered at 3380 cm^{-1} whose 2nd harmonics could cause an optical absorption between 1.445 and 1.515 μm), SiN-H oscillators (centered at 3420 cm^{-1} whose 2nd harmonics could cause an optical absorption between 1.445 and 1.479 μm) and SiO-H oscillators (centered at 3510 cm^{-1} and whose 2nd harmonics could cause an optical absorption between 1.408 and 1.441 μm) after a high temperature thermal treatment in a nitrogen ambient at 800°C.

Please amend paragraph [00185] as follows:

[00185] It is can be seen from Figure 10 that the mechanical stress of core is tensile at about 175MPa prior to the stress hysteresis cycle and following its Plasma Enhanced Chemical Vapor Deposition at a substrate temperature of 400°C and following its cooling at room temperature; follows an elastic deformation and ~~decreases~~ increases linearly as the temperature is increased linearly from room temperature to about 450°C, an expected situation since the coefficient of linear expansion of silica-based core is smaller than the one of the underlying silicon; follows two plastic deformations during the stress hysteresis cycle up to 800°C (Region C1, from 450°C to 675°C, where the tensile mechanical stress decreases as the temperature is increased; Region C2, from 675°C to 800°C, where the tensile mechanical stress is almost constant); follows another elastic deformation and ~~increases~~ decreases linearly as the temperature is decreased linearly from 800°C to room temperature, an expected situation since the coefficient of linear expansion of silica-based core is smaller than the one of the underlying silicon; and is still tensile at about 40MPa after the stress hysteresis cycle up to 800°C.